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ABSTRACT

This report examines the nature of the conditions presented by adolescents and the health care provided by office-based physicians. The characteristics of patients are noted and the reason for the visit to the doctor and the length of the visit are summarized. Tables present information on: (1) average annual rate of office visits of adolescents and all other age groups by sex, race, and age; (2) number of office visits made by adolescents and all other age groups and percent distribution by visit characteristics; (3) number of office visits made by adolescents and percent distribution by the 20 most frequent principal reasons for the visit; (4) number of office visits made by adolescents and percent distribution by the 20 most frequent principal diagnoses, according to age; (5) number of drug mentions in office visits made by adolescents and all other age groups and percent distribution by therapeutic category; (6) number and percent distribution of drug mentions in office visits made by adolescents and percent distribution by age and most frequently named drugs; and (7) number of generic drugs utilized in office visits made by adolescents by age and the 30 most frequently used generic substances. (JD)

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# Health Care of Adolescents by Office-Based Physicians: National Ambulatory Medical Care Survey, 1980–81

by Beulah K. Cypress, Ph.D., Division of Health Care Statistics

## Introduction

Adolescents 11–20 years of age do not utilize physician services as frequently as other persons do. Among age groups of patients visiting office-based physicians in 1980 and 1981, adolescents 11–20 years of age had the lowest visit rate (figure 1). Although persons 11–20 years old constituted 17 percent of the population of the United States, they made only 11 percent of the office visits. However, this does not necessarily indicate a low incidence of illness for this group because they also had a higher incidence of acute conditions than older age groups in the population did. The low rate of office visits may be related to the self-limiting nature of most acute conditions that usually do not require as many return visits to the physician's office as chronic conditions do.

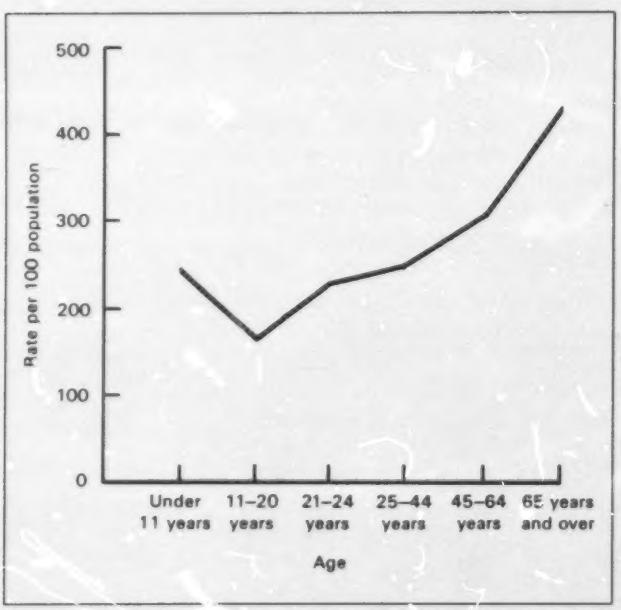


Figure 1. Average annual rate of office visits by age of patient: United States, 1980–81

This report examines the nature of the conditions presented by adolescents and the health care provided by office-based physicians. It is based on data collected in the National Ambulatory Medical Care Survey (NAMCS) during the 2-year period January 1980–December 1981. NAMCS is a sample survey of office-based physicians conducted annually through 1981 by the National Center for Health Statistics. Data will be collected again in 1985. Because the estimates presented in this report are based on a sample rather than on the entire universe of office visits, they are subject to sampling variability. A brief description of the sample design and guidelines for judging the precision of the estimates are provided in the "Technical notes" at the end of the report. Definitions of key terms used in the survey also are provided.

## Patient characteristics

Because of the many developmental changes patients 11–20 years of age undergo during this period of life, data on visit characteristics are presented for "early" adolescence, 11–14 years, and "late" adolescence, 15–20 years. Table 1 indicates that the latter group visited at a higher rate than the former, and, as in NAMCS data for other age groups, females 15–20 years of age visited at a higher rate than males the same age did. The visit rate for white adolescents exceeded that of black adolescents.



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Table 1. Average annual office visit rate of adolescents and all other age groups by sex, race, and age: United States, 1980–81

| Sex and race | Age 11–14 years | Age 15–20 years | Age 11–20 years | All other ages |
|---|---|---|---|---|
| | Rate per 100 population | | | |
| **Sex** | | | | |
| Both sexes | 140 | 179 | 165 | 281 |
| Female | 142 | 219 | 191 | 326 |
| Male | 138 | 139 | 139 | 231 |
| **Race** | | | | |
| White | 151 | 192 | 177 | 291 |
| Black | 89 | 124 | 111 | 239 |
| Other | 95 | 50 | 67 | 127 |

## Visit characteristics

Table 2 includes data on the condition and management of adolescent patients, and the specialties most likely to provide their health care. For contrast, similar information is provided on visits by all other patients. As suggested in the introduction, adolescents tend to make proportionately fewer return visits to the same physician than other patients. About half their visits were made by patients the physician had seen before, who were returning for care of old problems, compared with about 65 percent by returning patients in all other age groups. The higher than average proportion of acute problems as the major reason for visit reflects the higher incidence of acute conditions found in the adolescent population. Nonillness care is proportionately greater in late adolescence than in early adolescence because visits for prenatal care and gynecological examinations are more likely at that age. Table 3 shows the 20 most frequent reasons given by patients for their visits. Symptoms of acute illness such as cough, throat, or ear problems accounted for 13 percent of the reasons presented by the younger group. General medical examination and physical examinations for extracurricular activities and for school were reasons in 11 percent of visits. Acne, skin rash, allergy medication, and allergy, not otherwise specified, were also common reasons for visit for this group. Prenatal examination and acne account for about 15 percent of the visits by the older group. The juxtaposition of these two reasons provides some insight into the rapid changes that occur during adolescence.

The distinction between the health care needs of patients in the early and late stages of adolescence is also evident in the kinds of diagnoses rendered during their visits to physicians. For the younger group, diseases of the respiratory system (21 percent) was the leading diagnostic category, followed by diagnoses in the supplementary classification (chiefly examinations, 16 percent), and injury and poisoning (16 percent, table 2). For the older group, diagnoses in the supplementary classification (25 percent) were the most common, with diseases of the skin and subcutaneous tissue ranked second with 14 percent. Diseases of the respiratory system and injury and poisoning each accounted for 13 percent.

The developmental process is more clearly exemplified by an examination of the distribution of specific principal diagnoses. The 20 most frequent principal diagnoses are shown in table 4. The variability in the degree of maturation that is typical of adolescence is reflected by the two leading diagnoses made for patients 15–20 years of age: normal pregnancy (9 percent) and diseases of the sebaceous glands (chiefly acne other than varioliformis, 7 percent). Acne accounted for 8 percent of males' visits and 6 percent of females' visits, but the difference is not statistically significant. General medical examination is prominent on the list of diagnoses for each adolescent age group. Gynecological examination and contraceptive management emerge as diagnoses in late adolescence.

Adolescents are more likely to visit dermatologists and less likely to visit internists than other patients are. It is not unexpected that visits to obstetrician-gynecologists were more likely during late adolescence (14 percent) than during the earlier period.

The diagnostic services and therapy likely to be utilized when adolescents visit office-based physicians do not differ considerably from those used when other patients visit (table 2). The higher proportion of office surgery performed for adolescents than for other age groups was probably the result of the former's greater tendency to have injuries. Family planning was included in about 5 percent of visits by patients 15–20 years of age, a higher than average proportion. However, diet counseling was relatively less frequent than average. The importance of proper nutrition at this stage of life may need greater emphasis. Physicians also tend to make proportionately fewer blood pressure measurements for patients under 21 years of age than for those older.

One or more drugs were included in about 57 percent of adolescents' visits, and a single drug was more likely to be prescribed than were two, three, or more. NAMCS data indicate that multiple drug prescription is more likely to occur during visits by middle-aged and older patients than during those by younger patients. For these young patients, antibiotics, antihistamine drugs, skin and mucous membrane preparations, and analgesics and antipyretics accounted for over 50 percent of drug mentions (table 5). The specific drugs most frequently prescribed during their visits are listed in table 6 according to the drug name recorded by the physician on the NAMCS Patient Record form (the NAMCS data collection instrument). The generic substances represented by these drugs are shown in table 7 with a description of their most common therapeutic uses.

Visits lasting less than 11 minutes were more likely for adolescents than for other age groups. About 46 percent of encounters with physicians by patients 11–14 years of age and 51 percent of those by patients 15–20 years of age were less than 11 minutes in duration, compared with 42 percent of those by all other age groups (table 2). In about 6 percent of the youngest group's visits, patients were not seen by the physician but by a member of the staff. This higher than average proportion of "0-minute" visits probably reflects the visits in which patients were given allergy relief or shots (table 6).

The disposition of the visit is often related to the likelihood of acute or chronic conditions. Generally, patients with

**Table 2. Number of office visits made by adolescents and all other age groups and percent distribution by selected visit characteristics, according to age: United States, 1980–81**

| Characteristic | Age 11–14 years | Age 15–20 years | Age All other ages |
|---|---|---|---|
| | Number in thousands | | |
| All visits | 40,269 | 87,172 | 1,033,482 |
| | Percent distribution | | |
| Total | 100.0 | 100.0 | 100.0 |
| Sex | | | |
| Female | 49.4 | 61.3 | 60.6 |
| Male | 50.6 | 38.7 | 39.4 |
| Race | | | |
| White | 88.8 | 89.7 | 89.4 |
| Black | 9.4 | 9.7 | 9.5 |
| All other | 1.8 | 0.7 | 1.1 |
| Hispanic origin | | | |
| Hispanic | 4.6 | 5.4 | 4.5 |
| Non-Hispanic | 95.4 | 94.6 | 95.5 |
| Prior visit status | | | |
| New patient | 18.3 | 20.8 | 13.7 |
| Old patient, new problem | 31.7 | 26.1 | 21.6 |
| Old patient, old problem | 50.0 | 53.2 | 64.7 |
| Major reason for visit | | | |
| Acute problem | 47.2 | 41.0 | 35.6 |
| Chronic problem, routine | 20.5 | 19.4 | 29.1 |
| Chronic problem, flareup | 6.2 | 5.7 | 9.6 |
| Postsurgery or postinjury | 9.4 | 9.9 | 8.7 |
| Nonillness care | 16.8 | 24.0 | 17.1 |
| Principal diagnosis category and ICD–9–CM code[1] | | | |
| Infectious and parasitic diseases 001–139 | 6.2 | 5.6 | 2.9 |
| Neoplasms 140–239 | *0.7 | 0.9 | 2.9 |
| Endocrine, nutritional and metabolic diseases, and immunity disorders 240–279 | *0.7 | 1.5 | 4.2 |
| Mental disorders 290–319 | 2.2 | 2.9 | 4.3 |
| Diseases of the nervous system and sense organs 320–389 | 11.1 | 6.3 | 9.6 |
| Diseases of the circulatory system 390–459 | *0.5 | 1.1 | 10.8 |
| Diseases of the respiratory system 460–519 | 20.7 | 13.3 | 12.2 |
| Diseases of the digestive system 520–579 | 3.0 | 2.8 | 4.4 |
| Diseases of the genitourinary system 580–629 | 2.7 | 6.0 | 6.0 |
| Diseases of the skin and subcutaneous tissue 680–709 | 8.7 | 13.6 | 5.2 |
| Diseases of the musculoskeletal system and connective tissue 710–739 | 4.8 | 3.6 | 7.2 |
| Symptoms, signs, and ill-defined conditions 780–799 | 3.4 | 2.5 | 3.4 |
| Injury and poisoning 800–999 | 16.1 | 12.5 | 7.5 |
| Supplementary classification V01–V82 | 16.4 | 24.9 | 16.9 |
| All other diagnoses | 1.4 | 1.5 | 1.3 |
| Unknown diagnoses | 1.6 | 1.0 | 1.2 |
| Diagnostic services[2] | Percent distribution | | |
| None | 13.0 | 9.8 | 7.8 |
| Limited history and/or examination | 62.1 | 64.3 | 64.4 |
| General history and/or examination | 15.9 | 15.3 | 15.5 |
| Pap test | *0.4 | 4.8 | 4.5 |
| Clinical laboratory test | 20.3 | 23.9 | 21.8 |
| X-ray | 9.2 | 7.4 | 7.4 |
| Blood pressure check | 15.8 | 29.5 | 35.4 |
| Electrocardiogram | *0.5 | 0.5 | 3.3 |
| Vision test | 8.2 | 5.6 | 5.7 |
| Endoscopy | *0.2 | *0.4 | 1.0 |
| Mental status examination | *0.9 | 1.4 | 1.5 |
| Other | 3.3 | 3.9 | 5.1 |
| Nonmedication therapy[2] | | | |
| None | 57.3 | 52.9 | 53.8 |
| Physiotherapy | 4.6 | 5.3 | 4.8 |
| Office surgery | 13.2 | 11.7 | 6.8 |
| Family planning | *0.5 | 4.9 | 1.9 |
| Psychotherapy or therapeutic listening | 2.3 | 3.7 | 5.1 |
| Diet counseling | 3.8 | 4.6 | 8.5 |
| Family or social counseling | 2.5 | 2.2 | 2.1 |
| Medical counseling | 19.5 | 20.3 | 23.4 |
| Other | 3.4 | 2.4 | 2.5 |
| Number of medications | | | |
| None | 43.8 | 43.3 | 37.5 |
| 1 | 34.3 | 31.5 | 30.7 |
| 2 | 15.3 | 17.0 | 17.9 |
| 3 or more | 6.6 | 8.3 | 13.9 |
| Physician specialty | | | |
| General and family practice | 34.1 | 35.8 | 32.6 |
| Internal medicine | 2.8 | 5.8 | 13.4 |
| Pediatrics | 29.3 | 8.3 | 10.6 |
| Obstetrics and gynecology | *0.9 | 13.9 | 9.3 |
| Dermatology | 6.4 | 11.1 | 3.8 |
| General surgery | 3.3 | 4.7 | 5.4 |
| Ophthalmology | 4.9 | 3.9 | 5.5 |
| Otolaryngology | 2.6 | 2.1 | 2.3 |
| Psychiatry | 1.7 | 2.3 | 2.8 |
| All other specialties | 14.1 | 12.1 | 14.4 |
| Duration of visit | | | |
| 0 minutes[3] | 5.6 | 2.2 | 2.5 |
| 1–5 minutes | 15.6 | 17.8 | 12.1 |
| 6–10 minutes | 30.7 | 32.9 | 29.8 |
| 11–15 minutes | 26.0 | 25.5 | 28.1 |
| 16–30 minutes | 18.6 | 17.3 | 21.2 |
| 31 minutes or longer | 3.7 | 4.3 | 6.3 |
| Disposition of visit[4] | | | |
| No followup planned | 19.7 | 17.6 | 10.7 |
| Return at specified time | 47.2 | 53.2 | 61.8 |
| Return if needed | 28.2 | 24.1 | 22.4 |
| Telephone followup planned | 3.8 | 3.5 | 3.4 |
| Referred to other physician | 2.6 | 2.7 | 2.6 |
| Returned to referring physician | *0.7 | *0.4 | 0.8 |
| Admit to hospital | 1.2 | 1.6 | 2.4 |
| Other | *0.2 | *0.3 | 0.2 |

[1] Based on U.S. Public Health Service and Health Care Financing Administration: *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM). DHHS Pub. No. (PHS) 80–1260. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1980.
[2] Percents will not total 100.0 because more than 1 service or therapy may have been provided during a visit.
[3] Visits in which there was no face-to-face encounter between patient and physician.
[4] Percents will not total 100.0 because more than 1 disposition was possible.

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**Table 3. Number of office visits made by adolescents and percent distribution by the 20 most frequent principal reasons for visit, according to age: United States, 1980–81**

| Age, principal reason for visit, and RVC code[1] | Number of visits in thousands | Percent distribution |
|---|---|---|
| **11–14 years** | | |
| Total | 40,269 | 100.0 |
| Symptoms referable to throat S455 | 2,646 | 6.6 |
| General medical examination X100 | 2,431 | 6.0 |
| Allergy medication T100 | 1,780 | 4.4 |
| Earache, or ear infection S355 | 1,482 | 3.7 |
| Acne or pimples S830 | 1,356 | 3.4 |
| Cough S440 | 1,196 | 3.0 |
| Skin rash S860 | 1,187 | 2.9 |
| Physical examination for extracurricular activities A115 | 1,091 | 2.7 |
| Knee symptoms S925 | 860 | 2.1 |
| Progress visit, not otherwise specified T800 | 723 | 1.8 |
| Physical examination required for school A110 | 708 | 1.8 |
| Headache, pain in head S210 | 678 | 1.7 |
| Stomach pain, cramps and spasms S545 | 670 | 1.7 |
| Eye examination X230 | 644 | 1.6 |
| Postoperative visit T205 | 626 | 1.6 |
| Fever S010 | 575 | 1.4 |
| Warts, not otherwise specified S850 | 555 | 1.4 |
| Allergy, not otherwise specified S090 | 555 | 1.4 |
| Vision dysfunctions S305 | 543 | 1.3 |
| Head cold, upper respiratory infection (coryza) S445 | 491 | 1.2 |
| Residual | ... | 48.3 |
| **15–20 years** | | |
| Total | 87,172 | 100.0 |
| Prenatal examination, routine X205 | 6,985 | 8.0 |
| Acne or pimples S830 | 5,811 | 6.7 |
| Symptoms referable to throat S455 | 4,937 | 5.7 |
| General medical examination X100 | 2,892 | 3.3 |
| Skin rash S860 | 2,084 | 2.4 |
| Postoperative visit T205 | 1,761 | 2.0 |
| Progress visit, not otherwise specified T800 | 1,737 | 2.0 |
| Cough S440 | 1,452 | 1.7 |
| Abdominal pain, cramps, spasms S550 | 1,441 | 1.7 |
| Physical examination required for school A110 | 1,423 | 1.6 |
| Allergy medication T100 | 1,329 | 1.5 |
| Physical examination for extracurricular activities A115 | 1,268 | 1.5 |
| Earache, or ear infection S355 | 1,239 | 1.4 |
| Knee symptoms S925 | 1,138 | 1.3 |
| Headache, pain in head S210 | 1,120 | 1.3 |
| Head cold, upper respiratory infection (coryza) S445 | 1,062 | 1.2 |
| Back symptoms S905 | 1,044 | 1.2 |
| Eye examination X230 | 965 | 1.1 |
| Gynecological examination X225 | 889 | 1.0 |
| Warts, not otherwise specified S850 | 878 | 1.0 |
| Residual | ... | 52.4 |

[1] Based on: National Center for Health Statistics, D. Schneider, L. Appleton, and T. McLemore: A reason for visit classification for ambulatory care (RVC). *Vital and Health Statistics.* Series 2, No. 78. DHEW Pub. No. (PHS) 79–1352. Public Health Service. Washington. U.S. Government Printing Office, Feb. 1979.

chronic conditions are more likely to be scheduled for return visits than are those with acute self-limiting conditions.

Because the youngest group (11–14 years) had proportionately more acute problems than other patients, they were also least likely to be told to return at a specified time. As table 2 shows, the proportion of visits that culminated with this instruction is higher in late adolescence than in early, but both groups have lower proportions of visits in which return visits were scheduled than other age groups did.

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**Table 4. Number of office visits made by adolescents and percent distribution by the 20 most frequent principal diagnoses, according to age: United States, 1980–81**

| Age, principal diagnosis, and ICD–9–CM code[1] | Number of visits in thousands | Percent distribution |
|---|---|---|
| **11–14 years** | | |
| Total | 40,269 | 100.0 |
| General medical examination V70 | 2,832 | 7.0 |
| Allergic rhinitis 477 | 1,760 | 4.4 |
| Diseases of sebaceous glands[2] 706 | 1,629 | 4.0 |
| Acute pharyngitis 462 | 1,297 | 3.2 |
| Acute upper respiratory infections of multiple or unspecified sites 465 | 1,296 | 3.2 |
| Suppurative and unspecified otitis media 382 | 1,177 | 2.9 |
| Asthma 493 | 1,109 | 2.8 |
| Disorders of refraction and accommodation 367 | 1,054 | 2.6 |
| Routine infant or child health check V20.2 | 930 | 2.3 |
| Certain adverse effects not elsewhere classified[3] 995 | 808 | 2.0 |
| Acute tonsillitis 463 | 791 | 2.0 |
| Other diseases due to viruses and chlamydiae 078 | 770 | 1.9 |
| Contact dermatitis and other eczema 692 | 684 | 1.7 |
| Fracture of radius and ulna 813 | 551 | 1.4 |
| Disorders of external ear 380 | 527 | 1.3 |
| Curvature of spine 737 | 460 | 1.1 |
| Bronchitis, not specified as acute or chronic 490 | *435 | 1.1 |
| Observation and evaluation for suspected conditions V71 | *422 | 1.0 |
| Other noninfective gastroenteritis and colitis 558 | *413 | 1.0 |
| Followup examination V67 | *405 | 1.0 |
| Residual | ... | 52.1 |
| **15–20 years** | | |
| Total | 87,172 | 100.0 |
| Normal pregnancy V22 | 7,926 | 9.1 |
| Diseases of sebaceous glands 706 | 7,306 | 8.4 |
| General medical examination V70 | 5,457 | 6.3 |
| Acute pharyngitis 462 | 2,439 | 2.8 |
| Acute upper respiratory infections of multiple or unspecified sites 465 | 2,242 | 2.6 |
| Special investigations and examinations[4] V72 | 1,756 | 2.0 |
| Disorders of refraction and accommodation 367 | 1,525 | 1.7 |
| Allergic rhinitis 477 | 1,482 | 1.7 |
| Other diseases due to viruses and chlamydiae 078 | 1,427 | 1.6 |
| Followup examination V67 | 1,345 | 1.5 |
| Acute tonsillitis 463 | 1,254 | 1.4 |
| Contact dermatitis and other eczema 692 | 1,146 | 1.3 |
| Suppurative and unspecified otitis media 382 | 955 | 1.1 |
| Contraceptive management V25 | 866 | 1.0 |
| Asthma 493 | 851 | 1.0 |
| Disorders of menstruation and other abnormal bleeding from female genital tract 626 | 820 | 0.9 |
| Bronchitis, not specified as acute or chronic 490 | 78.8 | 0.9 |
| Disorders of external ear 380 | 731 | 0.8 |
| Chronic sinusitis 473 | 722 | 0.8 |
| Neurotic disorders 300 | 719 | 0.8 |
| Residual | ... | 52.3 |

[1]Based on U.S. Public Health Service and Health Care Financing Administration: *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM). DHHS Pub. No. (PHS) 80–1260. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1980.
[2]Chiefly 706.1, acne other than varioliformis.
[3]Chiefly 995.3, allergy unspecified.
[4]Chiefly V72.3, gynecological examination.

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**Table 5. Number of drug mentions in office visits made by adolescents and all other age groups and percent distribution by therapeutic category, according to age: United States, 1980–81**

| Therapeutic category[1] | Age | | |
|---|---|---|---|
| | 11–14 years | 15–20 years | All other ages |
| | Number in thousands | | |
| All categories | 34,950 | 81,382 | 1,214,414 |
| | Percent distribution | | |
| Total | 100.0 | 100.0 | 100.0 |
| Antihistamine drugs | 17.7 | 9.0 | 6.1 |
| Anti-infective agents | 27.4 | 29.6 | 14.5 |
| Antibiotics | 26.3 | 27.2 | 12.2 |
| Autonomic drugs | 3.3 | 3.3 | 3.8 |
| Blood formation and coagulation | *0.4 | 1.0 | 1.3 |
| Antianemia drugs | *0.4 | 1.0 | 0.8 |
| Cardiovascular drugs | *0.5 | *2.7 | 10.9 |
| Central nervous system drugs | 7.9 | 9.5 | 16.9 |
| Analgesics and antipyretics | 5.6 | 6.3 | 9.0 |
| Psychotherapeutic agents | *0.3 | 0.9 | 2.5 |
| Sedatives and hypnotics | *1.0 | 1.5 | 3.8 |
| Diagnostic agents | 1.8 | 0.8 | 0.4 |
| Tuberculosis | 1.8 | 0.8 | 0.4 |
| Electrolytic, caloric, and water balance | *0.6 | 1.0 | 8.8 |
| Expectorants and cough preparations | 5.1 | 3.2 | 2.7 |
| Eye, ear, nose and throat preparations | 5.2 | 3.4 | 3.7 |
| Anti-infectives | 2.4 | 1.4 | 0.9 |
| Anti-inflammatory agents | *1.0 | 0.8 | 0.7 |
| Gastrointestinal drugs | *1.5 | 2.2 | 3.8 |
| Hormones and synthetic substitutes | 4.2 | 8.2 | 8.5 |
| Adrenals | 2.7 | 2.6 | 3.0 |
| Contraceptives | *0.4 | 4.2 | 0.9 |
| Serums, toxoids and vaccines | 4.8 | 3.0 | 3.4 |
| Toxoids | 1.9 | 1.8 | 1.3 |
| Vaccines | 2.6 | 1.1 | 2.0 |
| Skin and mucous membrane preparations | 13.9 | 17.6 | 7.0 |
| Anti-infectives | 2.8 | 3.2 | 1.7 |
| Anti-inflammatory agents | 4.4 | 4.1 | 2.9 |
| Cell stimulants and proliferants | *1.0 | 1.8 | 0.2 |
| Keratolytic agents | 3.2 | 5.6 | 0.6 |
| Spasmolytic agents | 2.2 | *0.7 | 1.7 |
| Vitamins | *0.8 | 4.4 | 3.4 |
| Other, unclassified or undetermined | 2.7 | 2.4 | 3.1 |

[1] Based on American Society of Hospital Pharmacists, Inc.: *The American Hospital Formulary Service.* Washington. Jan. 1980.

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**Table 6. Number and percent distribution of drug mentions in office visits made by adolescents (and percent distribution) by age and most frequently named drugs: United States, 1980–81**

| Age and name of drug[1] | Number in thousands | Percent distribution |
|---|---|---|
| **11–14 years** | | |
| Total | 34,950 | 100.0 |
| Allergy relief or shots | 2,878 | 8.2 |
| Ampicillin | 1,090 | 3.1 |
| Penicillin | 1,032 | 3.0 |
| Aspirin | 937 | 2.7 |
| Tetracycline | 912 | 2.6 |
| Tuberculin tine test | 835 | 2.4 |
| E.E.S. (erythromycin) | 601 | 1.7 |
| Erythromycin | 554 | 1.6 |
| Amoxicillin | 533 | 1.5 |
| Dimetapp | 503 | 1.4 |
| Pen-Vee K | 461 | 1.3 |
| Actifed | 461 | 1.3 |
| V-Cillin (penicillin) | *433 | 1.2 |
| Cleocin | *427 | 1.2 |
| Poliomyelitis vaccine | *405 | 1.2 |
| Diphtheria tetanus toxoids | *360 | 1.0 |
| Residual | ... | 64.6 |
| **15–20 years** | | |
| Total | 81,382 | 100.0 |
| Tetracycline | 3,724 | 4.6 |
| Allergy relief or shots | 2,354 | 2.9 |
| Cleocin | 2,307 | 2.8 |
| Penicillin | 2,195 | 2.7 |
| Ampicillin | 2,065 | 2.5 |
| Erythromycin | 1,446 | 1.8 |
| Retin-A | 1,335 | 1.6 |
| Aspirin | 1,253 | 1.5 |
| Desquam-X (benzoyl peroxide) | 946 | 1.2 |
| Minocin | 911 | 1.1 |
| Actifed | 858 | 1.1 |
| Ortho-novum | 831 | 1.0 |
| Tuberculin tine test | 812 | 1.0 |
| E-mycin (erythromycin) | 806 | 1.0 |
| Pen-Vee K | 777 | 1.0 |
| Prednisone | 692 | 0.9 |
| Keflex | 687 | 0.8 |
| E.E.S. (erythromycin) | 629 | 0.8 |
| Lo/ovral | 624 | 0.8 |
| Prenatal vitamins | 624 | 0.8 |
| Benzac (benzoyl peroxide) | 618 | 0.8 |
| Diphtheria tetanus toxoids | 572 | 0.7 |
| Tetanus toxoid | 564 | 0.7 |
| Dimetapp | 542 | 0.7 |
| Cortisporin | 509 | 0.6 |
| Skin preparation | 496 | 0.6 |
| Benadryl | 478 | 0.6 |
| Benzoyl (benzoyl peroxide) | 476 | 0.6 |
| Sumycin (tetracycline) | 471 | 0.6 |
| Benzagel (benzoyl peroxide) | 457 | 0.6 |
| Drixoral | 457 | 0.6 |
| Monistat | *446 | 0.5 |
| Residual | ... | 60.5 |

[1]Based on the physician's entry on the Patient Record form.

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**Table 7. Number of generic drugs utilized in office visits made by adolescents by age and the 30 most frequently used generic substances described by their most common therapeutic uses: United States, 1980–81**

| Age, generic substance, and most common therapeutic use | Number in thousands | Age, generic substance, and most common therapeutic use | Number in thousands |
|---|---|---|---|
| 11–14 years | | 15–20 years | |
| Penicillin (antibiotic) | 2,179 | Tetracycline (antibiotic) | 5,077 |
| Erythromycin (antibiotic) | 1,696 | Penicillin (antibiotic) | 4,031 |
| Phenylpropanolamine (sympathomimetic) | 1,645 | Erythromycin (antibiotic) | 3,473 |
| Phenylephrine (sympathomimetic) | 1,369 | Benzoyl peroxide (keratolytic, acne treatment) | 3,367 |
| Ampicillin (antibiotic) | 1,308 | Estradiol (estrogen) | 2,579 |
| Pseudoephedrine (antihistaminic, cough suppressant) | 1,239 | Aspirin (analgesic, antipyretic) | 2,461 |
| Chlorpheniramine (antihistaminic) | 1,233 | Clindamycin (antibiotic) | 2,347 |
| Tetracycline (antibiotic) | 1,191 | Pseudoephedrine (antihistaminic, cough suppressant) | 2,302 |
| Guaifenesin (cough suppressant) | 1,112 | Ampicillin (antibiotic) | 2,201 |
| Amoxicillin (antibiotic) | 1,097 | Multivitamins prenatal (vitamins) | 2,128 |
| Aspirin (analgesic, antipyretic) | 1,025 | Phenylpropanolamine (sympathomimetic) | 1,964 |
| Neomycin (antibiotic) | 959 | Phenylephrine (sympathomimetic) | 1,712 |
| Tuberculin (tuberculosis skin test) | 835 | Chlorpheniramine (antihistaminic) | 1,657 |
| Hydrocortisone (anti-inflammatory) | 830 | Norethindrone (oral contraceptive) | 1,615 |
| Brompheniramine (expectorant) | 803 | Hydrocortisone (anti-inflammatory) | 1,445 |
| Benzoyl peroxide (keratolytic, acne treatment) | 736 | Brompheniramine (expectorant) | 1,390 |
| Codeine (analgesic, antitussive) | 714 | Tretinoin (keratolytic) | 1,335 |
| Polymyxin B (antibacterial) | 694 | Neomycin (antibiotic) | 1,278 |
| Bacitracin (antibiotic) | 660 | Codeine (analgesic, antitussive) | 1,272 |
| Theophylline (vasodilator) | 647 | Acetaminophen (analgesic, antipyretic) | 1,246 |
| Triprolidine (antihistaminic) | 584 | Iron preparations (iron deficiency) | 1,186 |
| Atropine (anticholinergic) | 513 | Polymyxin B (antibacterial) | 1,059 |
| Hyoscyamine (anticholinergic) | 508 | Amoxicillin (antibiotic) | 1,058 |
| Promethazine (antihistaminic) | 499 | Guaifenesin (cough suppressant) | 1,044 |
| Acetaminophen (analgesic, antipyretic) | 498 | Salicylic acid (antifungal, keratolytic) | 1,021 |
| Salicylic acid (antifungal, keratolytic) | 491 | Triprolidine (antihistaminic) | 998 |
| Phenobarbital (anticonvulsant, sedative, hypnotic) | 463 | Bacitracin (antibiotic) | 983 |
| Scopolamine (hypnotic, sedative, anticholinergic) | 460 | Triamcinolone (anti-inflammatory) | 923 |
| Clindamycin (antibiotic) | *427 | Minocycline (antibiotic) | 919 |
| Polio vaccine (immunization) | *405 | Norgestrel (oral contraceptive) | 901 |

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## Technical notes

### Source of data and sample design

The estimates presented in this report are based on the findings of the National Ambulatory Medical Care Survey (NAMCS), a sample survey of office-based care conducted annually from 1973 through 1981 by the National Center for Health Statistics. The target universe of NAMCS is composed of office visits made by ambulatory patients to non-Federal and noninstitutional physicians who are principally engaged in office-based, patient-care practice. Visits to physicians practicing in Alaska and Hawaii are excluded from the range of NAMCS, as are visits to anesthesiologists, pathologists, and radiologists.

NAMCS uses a multistage probability sample design that involves a step sampling of primary sampling units (PSU's), physicians' practices within PSU's, and patient visits within physicians' practices. The physician sample (5,805 physicians for 1980 and 1981) was selected from master files maintained by the American Medical Association and the American Osteopathic Association. Those members of the sample who proved to be in scope and eligible participated at a rate of 77.3 percent. Responding physicians completed visit records for a systematic random sample of office visits made during a randomly assigned weekly reporting period. Telephone contacts were excluded. During 1980 and 1981 responding physicians completed 89,447 visit records on which they recorded 97,796 drug mentions. Characteristics of the physician's practice, such as primary specialty and type of practice, were obtained during an induction interview. The National Opinion Research Center, under contract to the National Center for Health Statistics, was responsible for the field operations of the survey.

### Sampling errors and rounding

The standard error is a measure of the sampling variability that occurs by chance because only a sample, rather than the entire universe, is surveyed. The relative standard error of an estimate is obtained by dividing the standard error by the estimate itself and is expressed as a percent of the estimate. In this report, any estimate that exceeds a relative standard error of 30 percent is marked with an asterisk. Table I should be used to obtain the relative standard error for aggregates of office visits or for mentions of drugs by specific name (for example, Darvon). Table II should be used to obtain the relative standard error for drug mentions expressed as drug groups (for example, the analgesic drug family).

In this report, the determination of statistical significance is based on the *t*-test with a critical value of 1.96 (0.05 level of significance). Terms relating to differences, such as "higher" or "less," indicate that the differences are statistically significant. Terms such as "similar" or "no difference" mean that no statistical significance exists between the estimates being compared. A lack of comment in a comparison between any two estimates does not mean that the difference was tested and was not significant.

In the tables of this report estimates have been rounded to the nearest thousand. For this reason, detailed estimates do not always add to totals.

**Table I. Approximate relative standard errors of estimated numbers of office visits and of drug mentions when drug is listed by product name (for example, Darvon), based on all physician specialties: National Ambulatory Medical Care Survey, 1980–81**

| *Estimated number of office visits or specific drug mentions* | *Relative standard error* |
|---|---|
| Number in thousands | Percent |
| *200 | *44.8 |
| *400 | *31.7 |
| *450 | *30.0 |
| 600 | 26.0 |
| 800 | 22.6 |
| 1,000 | 20.2 |
| 2,000 | 14.5 |
| 5,000 | 9.5 |
| 10,000 | 7.1 |
| 20,000 | 5.6 |
| 50,000 | 4.4 |
| 100,000 | 3.9 |
| 200,000 | 3.6 |
| 500,000 | 3.5 |
| 1,000,000 | 3.4 |

EXAMPLE OF USE OF TABLE: An aggregate estimate of 35,000,000 office visits has a relative standard error of 5.0 percent or a standard error of 1,750,000 visits (5.0 percent of 35,000,000 visits).

**Table II. Approximate relative standard errors of estimated numbers of drug mentions when drugs appear in groups (for example, the analgesic drug family), based on all physician specialties: National Ambulatory Medical Care Survey, 1980–81**

| *Estimated number of grouped drug mentions* | *Relative standard error* |
|---|---|
| Number in thousands | Percent |
| *200 | *54.2 |
| *400 | *38.5 |
| *600 | *31.5 |
| *650 | *30.0 |
| 800 | 27.3 |
| 1,000 | 24.5 |
| 2,000 | 17.6 |
| 5,000 | 11.6 |
| 10,000 | 8.7 |
| 20,000 | 6.8 |
| 50,000 | 5.3 |
| 100,000 | 4.7 |
| 200,000 | 4.4 |
| 500,000 | 4.2 |
| 1,000,000 | 4.1 |

EXAMPLE OF USE OF TABLE: An aggregate estimate of 30,000,000 drug mentions has a relative standard error of 7.0 percent or a standard error of 2,100,000 mentions (7.0 percent of 30,000,000 mentions).

### Definitions

An *office* is a place that physicians identify as a location for their ambulatory practice. Responsibility for patient care and professional services rendered in an office resides with the individual physician rather than an institution.

A *visit* is a direct personal exchange between an ambulatory patient seeking health care and a physician, or staff member working under the physician's supervision, who provides the health services.

A *drug mention* is the physician's entry on the visit record of a pharmaceutical agent ordered or provided by any route of administration for prevention, diagnosis, or treatment. Generic as well as brand-name drugs are included as are nonprescription as well as prescription drugs. The physician records all new drugs and also records all continued medications if the patient is specifically instructed during the visit to continue the medication.

An *acute problem* is a morbid condition with a relatively sudden or recent onset (within 3 months of the visit).

A *chronic problem* is a morbid condition that existed for 3 months or longer before the visit. The care indicated is of a regular, maintenance nature.

A *chronic problem flareup* is a sudden exacerbation of a preexisting chronic condition.

*Nonillness care* denotes health examinations and care provided for presumably healthy persons. Examples of nonillness care include prenatal and postnatal care, annual physicals, well-child examinations, and insurance examinations.

**Symbols**

| | |
|---|---|
| - - - | Data not available |
| . . . | Category not applicable |
| - | Quantity zero |
| 0.0 | Quantity more than zero but less than 0.05 |
| Z | Quantity more than zero but less than 500 where numbers are rounded to thousands |
| * | Figure does not meet standards of reliability or precision |
| # | Figure suppressed to comply with confidentiality requirements |

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